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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,550

08/31/2006

Hidenobu Mikami

1007-034

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EXAMINER

OLADAPO, TAIWO

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

10/12/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,550	<b>Applicant(s)</b> MIKAMI, HIDENOBU	
	<b>Examiner</b> TAIWO OLADAPO	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7 and 23-28 is/are rejected.
- 7) ☒ Claim(s) 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The amendment dated 07/29/2010 has been considered and entered for the record. The response is not persuasive therefore previous rejections are maintained.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/29/2010 has been entered.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1, 2, 4, 7, 23, 24, 26, 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takata et al. (US 6,020,290) in view of Willey et al. (US 2004/0092408)
6. In regards to claim 1, 4, 7, 23, 24, 27, Takata teaches a grease composition for rolling bearing (title). The composition comprises base oil having a kinematic viscosity of from 40 to 200 mm<sup>2</sup>/s at 40°C (column 2 lines 4 – 10). The base oil can be mineral and or synthetic oil such as polyalphaolefin (column 2 lines 31 – 52). The grease comprises a thickener such as urea thickeners (column 3 lines 55 – 67). Takata teaches the grease can comprise additives such as extreme pressure agents etc., but does not particularly recite inorganic bismuth compounds (column 6 lines 27 – 41).

Willey teaches grease composition for rock bit roller bearings [title, 0005]. The greases comprise bismuth oxide extreme pressure additive present at from 1 to 20 % by weight [0008]. Antiwear additives which comprise bismuth oxide and bismuth sulfate which can be present at from 0.1 to less than about 10 % by weight [0118].

It would have been obvious for one of ordinary skill in the art to use the grease composition of Takata in the rock-bit bearing composition of Willey, as Takata teaches compositions suitable for use in rolling bearings.

7. In regards to claim 2, Takata and Willey combined teach the grease comprising inorganic bismuth compounds such as bismuth oxide and bismuth sulfate in amounts that overlap the claimed range as recited above. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541

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F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

8. In regards to claim 26, Takata and Willey combined teach the grease wherein other base fluids can be added such as polyethers [Willey, 0081].

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takata et al. (US 6,020,290) in view of Willey et al. (US 2004/0092408) and further in view of Delfort et al. (US 5,536,424)

10. In regards to claims 28, Takata and Willey teach the grease composition comprising bismuth compounds as antiwear and extreme pressure additives but do not particularly recite the compound on the claim. Delfort is added to teach bismuth carbonates additives formed by carbonation of bismuth sulphonates which possess antiwear and detergency properties in lubricating oils (abstract, column 4 lines 4 – 31). It would have been obvious for one of ordinary skill in the art at the time of the invention to have used the bismuth carbonates of Delfort in the grease composition of Takata and Willey combined, as Delfort teaches they are suitable for adding antiwear and detergent properties to lubricants.

***Allowable Subject Matter***

11. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 30 is allowed.

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13. The following is a statement of reasons for the indication of allowable subject matter: Claims 29 and 30 are directed to a sodium bismuthate compound used as an additive in a grease composition. The closest prior art references by Takata (US 6,020,290) in view of Willey et al. (US 2004/0092408) teach inorganic bismuth compounds such as bismuth oxides and bismuth sulfates suitably used for imparting antiwear and extreme pressure properties to a grease composition but do not recite sodium bismuthate. No reference in the prior art teaches using sodium bismuthate as additives in lubricating oils or greases.

#### ***Response to Arguments***

14. Applicant's arguments with respect to the previous rejections have been considered but they are not persuasive.

15. The applicant amends the claim to require base oils having viscosity of 33 to 100 mm<sup>2</sup>/s at 40°C and asserts that Willey teaches composition comprising HVPAO having viscosities higher than the limitations of the claim. The argument is not persuasive. Willey teaches extreme pressure agents having functionalities that would not be expected to be limited to any specific base oils or base greases, and are therefore suitably used as extreme pressure agents in the composition of Takata. Furthermore, the composition of Willey are not limited to high viscosity base fluids such as HVPAO, but mixtures which can comprise as little as 5% or less HVPAO in the blend [See 0074 of reference]. Therefore Willey does not restrict the use of additives of the composition to high viscosity fluids such as HVPAO as the applicant asserts.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO

/James Goloboy/  
Examiner, Art Unit 1771